

10/555719

JC20 Rec'd PCT/PTO 07 NOV 2005

Docket No.: 12810-00151-US
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Bernhard Hauer et al.

Application No.: Not Yet Assigned

Confirmation No.: N/A

Filed: Concurrently Herewith

Art Unit: N/A

For: METHOD FOR PRODUCING A
HYDROXYLATION CATALYST AND THE
USE THEREOF

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

Applicant has not submitted copies of each cited U.S. patent and U.S. patent application as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S. Patent and Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

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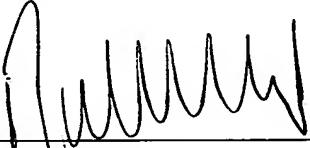
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The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 03-2775, under Order No. 12810-00151-US.

Dated:

Respectfully submitted,

By 

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Substitute for form 1449A/B/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Application Number	Not Yet Assigned 57355719
				Filing Date	Concurrently Herewith
				First Named Inventor	Bernhard Hauer
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	12810-00151-US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)	MM-DD-YYYY		

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	-1
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)	MM-DD-YYYY			

⁴EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ⁵Applicant's unique citation designation number (optional). ⁶See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ⁷Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁸For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁹Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ¹⁰Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS		
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	CA	Schwaneberg, U. et al., "A Continuous Spectrophotometric Assay for P450 BM-3, a Fatty Acid Hydroxylating Enzyme, and Its Mutant F87A", <i>Analytical Biochemistry</i> 269 (1999), pp. 359-366.
	CB	Ost, T. W. B. et al., "Rational Re-design of the Substrate Binding Site of Flavocytochrome P450 BM3", <i>FEBS Letters</i> 486 (2000), pp. 173-177.
	CC	Miles, C. S. et al., "Protein Engineering of Cytochromes P-450", <i>Biochimica et Biophysica Acta</i> 1543 (2000), pp. 383-407.
	CD	Maurer, S. C. et al., "Immobilisation of P450 BM-3 and an NADP Cofactor Recycling System: Towards a Technical Application of Heme-Containing Monooxygenases in Fine Chemical Synthesis", <i>Adv. Synth. Catal.</i> 345 (2000), pp. 802-810.
	CE	Wen, L-P. et al., "Cloning of the Gene Encoding a Catalytically Self-sufficient Cytochrome P-450 Fatty Acid Monooxygenase Induced by Barbiturates in <i>Bacillus megaterium</i> and Its Functional Expression and Regulation in Heterologous (<i>Escherichia coli</i>) and Homologous (<i>Bacillus megaterium</i>) Hosts", <i>The Journal of Biological Chemistry</i> 262(14) (1987), pp. 6676-6682.
	CF	Fulco, A. J. et al., "Occurrence of a Barbiturate-Inducible Catalytically Self-Sufficient 119,000 Dalton Cytochrome P-450 Monooxygenase in Bacilli", <i>Life Sciences</i> 40 (1987), pp. 1769-1775.
	CG	Iwuoha, E. I. et al., "Reactivities of Organic Phase Biosensors 3: Electrochemical Study of Cytochrome P450cam Immobilized in a Methyltriethoxysilane Sol-Gel", <i>Electroanalysis</i> 12(12) (2000), pp. 980-986.
	CH	Li, Q-S. et al., "Rational Evolution of a Medium Chain-Specific Cytochrome P-450 BM-3 Variant", <i>Biochimica et Biophysica Acta</i> 1545 (2001), pp. 114-121.
	CI	Li, Q-S. et al., "Engineering Cytochrome P450 BM-3 for Oxidation of Polycyclic Aromatic Hydrocarbons", <i>Applied and Environmental Microbiology</i> 67(12) (2001), pp. 5735-5739.
	CJ	Appel, D. et al., "A P450 BM-3 Mutant Hydroxylates Alkanes, Cycloalkanes, Arenes and Heteroarenes", <i>Journal of Biotechnology</i> 88 (2001), pp. 167-171.
	CK	Gill, I., "Bio-doped Nanocomposite Polymers: Sol-Gel Bioencapsulates", <i>Chem. Mater.</i> 13 (2001), pp. 167-171.

(2001), pp. 340-342).

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PTO/SB/08a/b (07-05)

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Substitute for form 1449A/B/PTO				Complete if Known	
				Application Number	Not Yet Assigned 719
				Filing Date	Concurrently Herewith
				First Named Inventor	Bernhard Hauer
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	2	of	2	Attorney Docket Number	12810-00151-US

	CL	Farinas, E. T. et al., "Directed Evolution of a Cytochrome P450 Monooxygenase for Alkane Oxidation", Adv. Synth. Catal. 343 (2001), pp. 601-607.	
	CM	Urlacher , V. B. et al., "Microbial P450 Enzymes in Biotechnology", Appl. Microbiol. Biotechnol. 64 (2004), pp. 317-325.	
	CN	Seelbach, K. et al., "A Novel, Efficient Regenerating Method of NADPH Using a New Formate Dehydrogenase", Tetrahedron Letters, 37(9) (1996), pp. 1377-1380.	
	CO	Tishkov, V. I. et al., "Pilot Scale Production and Isolation of Recombinant NAD ⁺ and NADP ⁺ - Specific Formate Dehydrogenases", Biotechnol. Bioeng. 64 (1999), pp. 187-193.	
	CP	Urlacher, V. et al., "Biotransformations Using Prokaryotic P450 Monooxygenases", Curr. Opin. Biotechnol. 13 (2002), pp. 557-564.	
	CQ	Li, Q-S. et al., "Directed Evolution of the Fatty-Acid Hydroxylase P450 BM-3 into an Indole-Hydroxylating Catalyst", Chem. Eur. J. 6(9) (2000), pp. 1531-1536.	
	CR	Li, Q-S. et al, "Residue Size at Position 87 of Cytochrome P450 BM-3 Determines Its Stereoselectivity in Propylbenzene and 3-chlorostyrene Oxidation", FEBS Letters 508 (2001), pp. 249-252.	

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¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature		Date Considered	
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